

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To: TBK-Patent Leson, Thomas, Johannes, Alois Bavariaring 4-6 D-80336 München Tyskland	RECEIVED EINGEGANGEN 22. Sep. 2004 TBK - PATENT
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NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)
(PCT Rule 71.1)

Date of mailing (day/month/year)	20-09-2004
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Applicant's or agent's file reference WO 34763	IMPORTANT NOTIFICATION	
International application No. PCT/IB2002/002312	International filing date (day/month/year) 26-06-2002	Priority date (day/month/year)
Applicant Nokia Corporation et al		

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see Also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/ Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Telex 17978 PATOREG-S	Authorized officer <div style="text-align: right;">Christina Wall</div> Telephone No. 08-782 25 00
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WO34763	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB2002/002312	International filing date (<i>day/month/year</i>) 26-06-2002	Priority date (<i>day/month/year</i>) ---
International Patent Classification (IPC) or national classification and IPC H04L 12/28, H04Q 7/38		
Applicant NOKIA CORPORAION ET AL		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ (*sent to the applicant and to the International Bureau*) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 23-01-2004	Date of completion of this report 16-09-2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Lisbeth Andersson /LR Telephone No. +46 8 782 25 00

Form PCT/IPEA/409 (cover sheet) (January 2004)

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2002/002312

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-46</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-46</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-46</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The examination is based on the originally filed claims 1-46.

Documents cited in the International Search Report:

D1: EP1156623

D2: CHI-CHUN LO ET AL: "QoS provisioning in handoff algorithms for wireless LAN", 1998 INTERNATIONAL ZURICH SEMINAR ON BROADBAND COMMUNICATIONS. ACCESSING, TRANSMISSION, NETWORKING. PROCEEDINGS (CAT. NO.98TH8277), PROCEEDINGS OF INTERNATIONAL ZURICH SEMINAR ON BROADBAND COMMUNICATIONS, ZURICH, SWITZERLAND, 17-19 FEB. 1998, pages 9-16, XP802230196 1998, New York, NY, USA, IEEE, USA ISBN: Q-78Q3-3893-6 page 9 -page

D3: US5815811

The problem to be solved, according to the applicant, is to avoid that a terminal frequently changes access point, which causes undesired pauses in an application in the terminal and unnecessary signalling and resource occupancy in the network [see the application on page 4 line 1 to page 5 line 8].

D1 describes a method for load balancing in a WLAN. Each access point in the network monitors its traffic load and sends this information (ATT) to the connected terminals. Each terminal monitors its traffic load (AUTT) and receives the traffic load information (ATT) from the different access points. The terminal then uses the ATT and the AUTT in a predetermined cost function. The result from this cost function is used by the terminal to select a connection with one of the access points in the network [see the abstract and claim 1].

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

The subject matter of independent claims 1, 14, 27 and 40-43 differs from the method described in D1, in that the roaming decision is made in the terminal in the method described in D1. The subject matter of independent claims 1, 14, 27 and 40-43 describes that the roaming decision is made outside the terminal. Such a "centralized" processing of the roaming decision based on a load balancing function offers the advantage that, in comparison to the conventional processing in the terminal side according to D1, an increased amount of information is available for the roaming decision [see e.g. page 34 first paragraph of the description]. The reason for this is that by this structure the whole network can be monitored which includes also other subscriber terminals than the one for which the roaming decision is to be made. This kind of information gain is not achievable by the system according to D1.

It is not considered obvious to the person skilled in the art to modify the system structure of reference D1 in such a way as defined in the independent claims 1-46, i.e. that the decision function is placed from the terminal to the network side. A person skilled in the art would realise that such a modification usually results in a higher calculating capability requirement at the access point (i.e. higher costs for the AP device) as well as in a higher signalling traffic load at the terminal/AP interface (data are sent first from the AP to the terminal and then back from the terminal to the AP, while reference D1 describes only the transmission from the AP to the terminal). The skilled person would normally avoid such changes since they are against the normal development targets (lower costs, less traffic load).

The cited D1 is therefore considered to represent the general state of the art and the claimed invention is not considered obvious to a person skilled in the art.

D2 and D3 are also considered to represent the general state of the art. The invention defined in claims 1-46 is not disclosed by any of these documents.

Accordingly, the invention defined in claims 1-46 is novel and is considered to involve an inventive step. The invention is industrially applicable.